

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

CLAIMS

I claim:

1. A shot pellet comprising:

a) a multilayered annular metallic composite; having an inner core, having a density and an outer shell;

b) whereby said shot pellet has an outer surface having a hardness and a lubricity equal to that of lead; and

c) further whereby said shot pellet also has a density equal to lead.

2. The shot pellet of claim 1 wherein the inner core is formed of a metal selected from the group of: tungsten, tungsten carbide, and tungsten iron.

3. The shot pellet of claim 1 wherein the outer shell is formed of a metal selected from the group of: bismuth, and bismuth/tin.

4. The shot pellet of claim 1 further comprising a layer of nickel, formed over said inner core.

5, The method of producing a shot pellet comprising the steps of:

a) placing a quantity of a metal powder in a punch press;

b) pressing said quantity of metal powder to form an inner core.

c) placing a quantity of bismuth/tin powder into a second punch press;

d) placing said inner core into said second punch press; and

e) pressing said bismuth/tin powder and inner core, to form a finished sphere.

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1 6. The method of claim 5 further comprising the step of: cleaning the inner core
2 to remove residual press oils, after step b.

3 7. The method of claim 5 wherein the metal powder is tungsten.

4 8. The method of claim 5 wherein the metal powder is a mixture of tungsten and
5 bismuth.

6 9. The method of claim 5 wherein the metal powder is a mixture of tungsten and
7 bismuth/tin.

8 10. A method of forming a shot pellet comprising the steps of:

9 a) selecting a metal core, having a size and a weight;

10 b) cleaning the core;

11 c) placing a quantity of bismuth/tin powder into a punch press;

12 d) placing the core into said punch press; and

13 e) pressing said core and said quantity of bismuth/tin powder to form a finished
14 sphere.

15 11. The method of claim 10 wherein the core is made of tungsten carbide.

16 12. The method of claim 10 wherein the core is made of tungsten carbide.

17 13. A method of forming a shot pellet comprising the steps of

18 a) forming a hollow wire of an outer metal;

19 b) inserting an inner core of a second metal into said hollow wire, forming a
20 filled wire;

21 c) segmenting said filled wire into discrete units;

22 d) placing each of said discrete segments into a punch press; and

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1 e) pressing each of said discrete units into a sphere.

2 14. The method of claim 13 wherein the outer metal is selected from the group of
3 Bismuth and Bismuth-tin.

4 15. The method of claim 13 wherein the inner metal is selected from the group of
5 tungsten, or tungsten carbide.

6 16. The method of claim 13 wherein the inner metal is a slurry containing a
7 tungsten powder and a digestible wax binder.